

Modern Floors

Their MAINTENANCE

A large, stylized zigzag pattern in dark blue and white lines covers the lower two-thirds of the cover. The pattern consists of multiple parallel lines forming a series of peaks and valleys.

FOR THE
ARCHITECT
AND
CONTRACTOR

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REALIZING the long felt need and increasing demand for a practical reference which Architects and Contractors might use to guide them in counselling their clients on proper maintenance methods for floors, we offer these suggestions, gained through a quarter of a century's experience, as a testimony of our willingness to be of service to those who visualize and to those who build modern floors.

We have in this book treated only the general problems of Floor Maintenance. In the many specific problems which are constantly arising and calling for expert advice you are invited to use the nation-wide service offered by the trained corps of Hillyard Maintenance Engineers and consultants.

For the wonderful assistance and co-operation which made this work possible we are indebted to the following firms.

Associated Tile Manufacturers, Inc., New York City;
Matawan Tile Co., Matawan, New Jersey; United States
Encaustic Tile Works, Indianapolis, Indiana; The Sparta
Ceramic Co., Cleveland, Ohio; United States Quarry Tile
Co., Canton, Ohio; Rossman Corporation, New York City;
Flint Faience & Tile Co., Flint, Michigan; Nemadji Tile &
Pottery Co., Moose Lake, Minnesota; National Terrazzo &
Mosaic Contractors Assn., Milwaukee, Wisconsin; Arm-
strong Cork Company, Linoleum Division, Lancaster,
Pennsylvania; The Geo. W. Blabon Company, Philadelphia,
Pennsylvania; Bonded Floors, Inc., Kearney, New
York; Wright Rubber Products Co., Racine,
Wisconsin; Tile Tex Company, Chicago
Heights, Illinois; Oak Flooring Bureau,
Chicago, Illinois; Maple Flooring
Manufacturing Association,
Chicago, Illinois.

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THE SHINE-ALL SALES COMPANY

Distributors

HILLYARD CHEMICAL COMPANY

A National Organization of Floor Maintenance Engineers and Counsellors

SAINT JOSEPH, MISSOURI, U. S. A.

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Design patent applied for

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MAINTENANCE OF MODERN FLOORS

THE HILLYARD SYSTEM OF FLOOR MAINTENANCE

WITH the ever increasing varieties and types of flooring in use today, the architect and contractor are compelled, through the needs of their clients, to become seriously interested in the technical solution of maintenance difficulties which arise on every hand. It is here that the Hillyard Chemical Co. has made a definite contribution in the maintenance field.

For many years the Hillyard research department has been diligent in experimenting with and perfecting new and revolutionary methods and formulae to meet the exacting present day maintenance demands. In the laboratory and in the field many battles of science and skill have been fought and won. From the victories gained has resulted a system of floor maintenance universally adopted and recognized as standard.

Maintenance in large institutions, public buildings, stores, etc., has too often been considered a necessary evil in the form of unproductive, fixed overhead expense. The prevention of obsolescence, generally considered as inevitable, has been allowed to rest in the hands of janitors, porters and scrub-women. So, in consequence, quoting the words of a prominent flooring material manufacturer, "More floors have been washed and eaten away through improper maintenance methods than have been walked away."

Meeting this problem in a scientific manner, Hillyard engineers have approached it from the standpoint that prevention and preservation should be considered as an investment.

Pursuing an efficient business-like policy, one of the first elements to overcome was that of excessive labor and mechanical costs. The old methods of using soaps and powder cleaners depended upon mechanical labor for results. In sharp contrast to this costly, and in many cases, harmful method, the Hillyard System is absolutely harmless, fool-proof and labor-saving. Soaps and powders have been replaced by Shine-All, a chemical cleaner which Cleans, Polishes and Preserves.

Being a liquid, Shine-All is absolutely soluble in water, eliminating the common to all soap and powders which leave heavy deposits of precipitated non-soluble material in the cleaning buckets. The liquid character of Shine-All also prevents the scratching or marring of the finest finish. The chemical agents of this product, which are neutral or non-alkaline in character, being free from lye, caustic, etc., dissolve and loosens dirt, grease, etc., quickly and without the need of expensive mechanical assistance.

Shine-All has been tested and approved by the leading Manufacturers of all types of rigid and resilient floors in the United States for use on their floors.

A light filler content in Shine-All produces a pleasing sheen which emphasizes and gives life to the colorful floors of all types and at the same time leaves a protective surface which prevents traffic stains.

RIGID FLOORS

KERAMIC TILE.

The Ceramic Tile industry is as old as civilization. Its proper care, however, has remained for modern science to solve. Increasing labor costs, heavy concentrated traffic and need of sanitation imposed by conditions in modern cities where multiplied thousands of people congregate in congested areas, require more than ordinary maintenance methods.

To efficiently maintain Ceramic Tile, whether installed in floors, walls, counters, mantels, etc., means that color effect, texture, and the individual character of the different types of tiles themselves be taken into consideration. The prevention of cement stains and

THE HILLYARD CHEMICAL COMPANY

efflorescence on certain types of tile, the need of added protection of colored joints, etc., are subjects requiring greater detail than the space herein permits. A special pamphlet on the maintenance of Ceramic Tile has been prepared and will be furnished free upon request. The general directions for the use of Shine-All, however, carried in this book will insure satisfactory results in the use of this product from a strictly cleaning maintenance standpoint.

MARBLE

A material given us by nature but in such a wide range and variety of color, texture and varying degrees of hardness that we feel constrained to warn against the acceptance of any one standardized procedure in its maintenance. The use of abrasive powders, although recommended in many instances by marble men have been proven highly injurious by exhaustive tests conducted by the National Marble Association and the Bureau of Standards at Washington, D. C. Soaps were also found to produce stains in certain types of marble. In recognition of the many technical details involved in the proper maintenance of marble it is advisable to have a Hillyard engineer pass upon each problem concerning marble only after a personal inspection.

TERRAZZO

A somewhat modern development of the Mosaic Art increasing its popularity and extending its sphere of uses in keeping with the rapid strides made in the invention of Terrazzo working machinery which insures a more uniform finished product.

The maintenance of terrazzo requires more thought than the mere means of removing the traffic dirt or dust from its surface.

In this modern age of color and artistic treatment of design one finds terrazzo in every conceivable combination of color and design used in areas ranging from private dwellings to corridors and foyers in public buildings subjected to the most intense of concentrated traffic.

Finally, Terrazzo is at one and the same time of stone hardness against abrasion or wear from friction yet is porous and absorbent to a certain degree to traffic grease stains.

Shine-All should be specified at all times for the maintenance of terrazzo surfaces, but in addition to this certain areas such as automobile display rooms where oil and grease must be taken into consideration, or in public spaces, on street levels, an application of Hillyard's Seal should be used to give a permanent protective stain-resistance finish. A pamphlet dealing specifically with terrazzo maintenance problem is now available.

RESILIENT FLOORS

LINOLEUM AND CORK COMPOSITION.

The wide commercial uses made of this type of resilient flooring material has imposed a new problem in the maintenance field. Much harm and irreparable damage is done to these floors by strong soaps containing alkali, potash, caustic lye, etc., also by abrasive powders.

Shine-All eliminates any chance of harm to these floors during the cleaning operation. More than that, however, are the benefits derived from the protective sheen left by Shine-All, which is most important to lengthen the life of resilient flooring and preserve its original beauty. To clean and preserve in their original condition linoleum floors, a cupful of Shine-All added to the average pail of water is all that is required.

MAINTENANCE OF MODERN FLOORS

RUBBER TILE

The satisfaction to be derived from, and the useful life of rubber floors is one that depends largely if not entirely upon its maintenance. It is essential that no cleaning agent be used on rubber tile which will destroy the Plate Finish produced in its manufacture.

The oils in soaps are also detrimental, acting as a solvent on rubber. Neither should abrasive material be used.

Shine-All is the most efficient material for use on rubber as attested by its years of satisfactory service in maintaining many of the largest installations of rubber tile in the country.

TILE-TEX, MASTIC AND MAGNESITE FLOORS

The various composition floors in use today have been given the same intense and individual attention by the Hillyard organization required to develop the proper maintenance method needed in each instance. Shine-All has again proved to be the one universal standardized cleansing and preservative agent which will produce uniform satisfactory results.

WOOD FLOORS

The development of an efficient Wood Floor Maintenance System by Hillyard has been primarily directed toward the solution of those problems which arise from the use of wood floors in public and private buildings, and in schools, for class rooms, corridors and gymnasiums.

Striking testimony of the Hillyard Method of Wood Floor Maintenance, tried and proven over a fifth of a century, is the long list of nationally known educational institutions using and recommending it. This testimony dates back even to the first installation—still a satisfied customer and highly pleased with their floors, now old in years but kept practically new, neat and inviting, by the Hillyard Method.

In the problem of school class rooms, the factor of sanitation is paramount. This means more than clean floors, it also involves the elimination of dust, a most important item, as medical science has long since agreed that most communicable diseases are transmitted by dust. The Gymnasium floors call for two requisites: first a smooth floor, and a non-slippery floor.

The use of Hillyard's Premier Wood Filler and Trackless Floor Dressing solves class room and corridor problems of clean, dustless floors—Hillyard's Gymnasium Finish produces the smooth, skid-proof, non-slippery surface so necessary in the gymnasium.

Shine-All is of course used in connection with the above materials.

Hillyard's Wood Floor Maintenance pamphlet gives detailed instructions for the application and use of these products.

SPECIFICATIONS

Many architects are specifying SHINE-ALL in the final clean-up because it invariably meet with the approval of the general and sub-contractors, and because SHINE-ALL gives the finished work a beautiful sheen which not only enhances, but protects it.

To protect the owner, architect and contractor, use the following paragraph in your specifications:

Upon the completion of the various portions of the work, the contractor or sub-contractor shall remove all unused material, rubbish, etc., and shall give the floors and (or) walls one thoro cleaning with SHINE-ALL.



RIGID FLOORS

THE HISTORY OF KERAMIC TILES

By ASSOCIATED TILE MFGRS.



The story of the keramic arts is one of the most fascinating chapters in the history of civilization. Dating from that day in dark antiquity when primitive man first noted the impression of his bare foot upon the soft mud bank of some primeval marsh, it has, by a slow, yet constantly evolving process, become one of the most highly developed and expressive of our arts, and through its plastic, yet enduring qualities has made possible to us knowledge of historic periods and given color to cultures of which we would today otherwise know little or nothing.

Architecture owes much to the keramic arts. This is not generally recognized, but to the student of architectural history it is apparent that the two arts—architecture and keramics—have walked hand-in-hand down through the ages, the potter fashionings from the plastic breast of mother earth, materials, structural or decorative, that the architect has needed.

It has been the habit of historians of keramics to attribute the beginnings of the art to some definite locality or country. Egypt, Chaldea and China have all been mentioned for priority. But the keramic arts, like so many of our arts dating back to the childhood period of the race, undoubtedly had similar beginnings in many widely separated geographical situations. Given the genus homo and the necessary raw material, clay, so widely distributed throughout the world, the former will react upon the latter for the formation of useful things for himself, even though it be only a crude, sun-dried clay bowl for the containing of seeds, herbs or other elements of sustenance that he has succeeded in garnering. The impulse to use the soil of earth is so natural that it may be related to the primitive food-getting pursuits of man; it is akin to the arts of snaring or fishing. Man became a potter through the sheer force of need and accumulated experience in an environment that offered clay as a material.

At what stage in the development of human society the use of earth first made its appearance in the crude architectural attempts of primitive man, it would be difficult to say. It is reasonable to believe, however, that once man appreciated the adhesive and plastic qualities of clay, he soon made use of these properties to make more nearly water-and-wind-proof his early shelter of logs, boughs or wattle-work of twigs. It might be possible to conceive of a primitive shelter as having been, in certain situations at any rate, a curious combination of the two primitive domestic arts: basketry and pottery—a shelter of woven grass and twigs, plastered inside and out with mud.

The second step toward the evolving of a keramic architecture would embrace the fashioning of sun-dried or mud bricks which in turn would be laid up in a wall with mud as "mortar" in the joints and per-

Members of the Associated Tile Mfrs.

Alhambra Tile Co.
American Encaustic
Tiling Co.
Cambridge Tile
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Federal Tile Co.
Franklin Pottery
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Tile Co.
Matawan Tile Co.
The Mosaic Tile Co.
National Tile Co.
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Sparta Ceramic Co.
The C. Pardee Works
Standard Tile Co.
U. S. Encaustic
Tile Works
U. S. Quarry Tile Co.
Wheatley Tile &
Pottery Co.
Wheeling Tile Co.

MAINTENANCE OF MODERN FLOORS

Kinds of Tiles Manufactured in the United States

Domestic Ceramic
Tiles
White Glazed Wall
Tiles
Dull, Matt and
Enamel Wall Tiles
Ceramic Mosaic
Vitreous and Semi-
Vitreous Tiles
Flint and Hydraulic
Tiles
Plastic Tiles, Plain
and Decorated
Faience Tiles, Plain
and Decorated
Quarry Tiles

haps applied as "plaster" inside and out. These rude sun-dried units sufficed for many, many centuries and indeed man today continues in many parts of the world, where climatic conditions permit, to use primitive mud or "adobe" bricks.

It is a far cry from the sun-dried mud bricks of the early potter to the various and interesting keramic products of our day or from those first glazed tiles of Egypt to our polychrome and decorative faience. But the keramist, working with his clay, perfecting his kiln, or finding new formulae for his enamel or glaze, has made possible the architectural triumphs of old Babylon and Ninevah, the glory of Rome, the wonderful creations of Persia and the varied keramic products which play so large a part in modern architecture.

The story of American keramic art is not a long one, yet if one wanted to be strictly chronological he would, of course, have to trace its career in Mexico, where it was introduced by the Spanish conquistadores and where at Puebla de las Angeles, southeast of Mexico City, a center of keramic art was developed. But since this keramic art of Mexico has had very little influence upon the art of the United States except through the Spanish mission architecture of the Pacific coast, it does not concern us here.

The art of pottery in the United States had first to do with the making of jugs, bottles and queensware, and the manufacture of Keramic tiles seems to date from the efforts of Samuel Keys, who in 1876 organized the Star Encaustic Tile Company, in Pittsburgh, Pa. This yielded such successful results that a similar plant was organized the following year in Zanesville, Ohio. Then followed the gradual establishment of the other plants in various sections of the country, and thus was built up an industry comparable with that in any modern country.



Any one who has ever watched the making of tiles realizes the skill required in producing their shapes and the delicate tints and hues. These effects are usually developed through the use of special combinations of clays and other materials and the different processes of firing. Like any other fired earthenware, its colors are made a part of the material itself. In the case of tiles they are either burned into the body or are fused onto the surface by intense heat. It is for this reason that keramic materials possess a permanent richness which probably cannot be accomplished by any manufacturing means other than firing.

The process of manufacturing tile is interesting from the standpoint of the number of times each individual unit is handled, and the extreme care in each operation. As in most other industries, machinery has been devised to cut to the minimum the amount of handling and man-power necessary, but even today, in many cases, these units have to be handled as many as forty to sixty times during their manufacture.

THE HILLYARD CHEMICAL COMPANY



Courtesy
MATAWAN TILE CO.

AT THE present time, we are in a period of Renaissance in the use of tiles. Of course, the bath in American homes has for many years been an example of the use of this product. But even in the bath today, the old-fashioned glazed white tile is speedily giving away to the softer, warmer tones of tan, grey, dark reds, cool greens and blues.

This trend is spreading rapidly to office buildings, public buildings and theatres.

In the designing of offices, tiles are being more and more used. In the above illustration, dignity is preserved and variety is obtained by the use of tile wainscoting, and the conventional border. The neutral grey of the floor is pleasing.

There are many reasons for the use of tile in offices, in addition to its decorative value. Its permanence, sanitary features, low absorption and ease of cleaning, recommends it.

Shine-All, a neutral chemical cleaner, not only removes germs, bacteria, dirt and all foreign matter from the surface of tiles, but it leaves a protecting "sheen," which preserves the face of the tiles.

MAINTENANCE OF MODERN FLOORS



Courtesy U. S. ENCAUSTIC TILE WORKS

*Save the
Surface===
Walk on
Shine=All
Sheen*



BACKGROUNDS play an increasing part in modern sales display. Just as a jeweler presents his exquisite pearls and finely cut diamonds upon a background of black velvet, so the astute automobile dealer uses tile in colors that enhance *his* wares.

Experience has taught that automobiles, from the least expensive models to those costing many thousands of dollars, appeal to better advantage and can be more readily sold when shown upon such a floor as the one pictured above, composed of a random pattern in salmon shades.

Such a floor, in addition to assisting in the important function of reducing sales resistance, is easily and economically cleaned with SHINE-ALL. This neutral chemical cleaner, solves the maintenance problem of this type of floor—it quickly dissolves grease and oil and reduces labor to the minimum.

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Courtesy of U. S. ENCAUSTIC TILE WORKS

LEADING ARCHITECTS and builders are only beginning to realize the possibilities that exist for the increased use of clay tiles in the vestibules and foyers of stores and theatres. The above reproduction illustrates a typical application of colored matte finish tile in the entrance of a large motion picture theatre. The wainscot is composed of $4\frac{1}{4} \times 4\frac{1}{4}$ tile glazed in pleasing and attractive shades of blue, blue-green and cream. A decorative touch is added by two bands, glazed with colors which harmonize with the treatment of the walls.

Vestibules, carried out in this material lend themselves to the subtle combination of dignified repression and decorative brilliancy, so much sought by the architect and builder.

The cleaning and maintenance of this type of construction is greatly simplified by the use of SHINE-ALL. The neutral chemical action of this cleaner, and the protective sheen which it leaves, assures the lasting beauty of tile.

*The "Main"
Thing in
Maintenance-
Shine=All*



MAINTENANCE OF MODERN FLOORS



*Model Kitchen in Private Residence
Courtesy SPARTA CERAMIC CO.*

WITH THE SLIGHT variations permissible in their outlines, surfaces and shadings, vitreous flint tile when laid, present a mosaic of harmonious, soft warmth of color, and the effect of a woven texture.

Shine-All is without equal for cleaning this type of tile. These red, brown and buff tiles clean as easily as the smooth faced vitreous tiles. Shine-All does not leave a gray film to cloud the colors as is often the case when cleaning powders are used, but perpetuates the original color.

SPECIFICATIONS

The following paragraph should be incorporated in the Architect's Specification on tile work:

Furnish all materials and labor necessary for the completion of the tile work. The Basic Specification for Tile Work, Second Edition, 1924, as issued by the Associated Tile Manufacturers, 220 Graybar Bldg., New York, N. Y., in so far as any portion is applicable to this building, is hereby made a part of this specification and of the contract. At the completion of the building the floors and other work shall be thoroughly cleaned with Shine-All.



Courtesy ROSSMAN CORPORATION

THE MAKING OF TILES

THE PRIMITIVE TILES, and also those which were made up until the machinery age, were produced by hand and hand colored. Even today, in those sections of the world still free from the influence of machinery, the tiles are made in the identical manner, using the same methods as those of the preceding century. In districts extremely remote from advanced civilization, especially in the rural localities of Africa, the clay is ground between stones and mixed with water by the feet of the natives. In some places, the kilns in which the tiles are burned are the same ones used by preceding generations of a century before.

Tiles, too, have played a role in history. Every race of people which has made a contribution to the worlds of architecture and ornament has left a distinct record in tiles. The simplicity of the Egyptians, the detail and color of the oriental races, the crudeness of the Arabs, the boldness of the southern Europeans, the elaborate designs of the Moors, all give a knowledge in tiles as distinct as their music, literature and other arts.

Tiles are made in multiple units so that a given number of smaller tiles will occupy the space of a larger one. This has been established to facilitate design. The tiles are made from selected clays and burned to a hardness under a high degree of temperature. The raw clay, the natural state as it comes from the earth, is ground to the fineness of flour. The

MAINTENANCE OF MODERN FLOORS

*The "Main"
Thing in
Maintenance=
Shine=All*



Courtesy FLINT FAIENCE COMPANY

different types of tiles determine the extent of grinding. They are divided into two classes: the dust presses, those pressed into shape from powdered clay, and the plastic tiles, those made from wet clay.

These two classes are again divided into groups of glazed and unglazed tiles. The unglazed tile is the clay as it emerges from the kiln where it has been burned. The glazed tiles are those after being burned once, now called the body or bisque, are coated with a glazing mixture of flint, clay and feldspar and reburned to fuse the glazing mixture and thus make the body and glaze a solid unit.

These glazed tiles are classed according to the texture of the glaze. Those of a bright lustre surface are termed bright glazed and those made with a dull surface are called matt glazed, and those made with a medium or satin-like surface are termed semi-matt glazed. The glazes, depending upon color effects desired, are transparent or opaque.

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CERAMIC ART

THERE IS SOMETHING about artistry in clay and glazes which intrigues: Its immutability when burned; the impossibility exactly to predetermine any result; in fact the veritable challenge offered by the medium. It is a reasonable assumption that this very difficulty has attracted the best artistic talent throughout all ages from prehistoric times and has kept tile continuously in the foreground of architecture and artistic expression.



Courtesy FLINT FAIENCE COMPANY

In America the tiled bathroom, now expected for practically all building construction, is receiving diminishing attention as compared to the use of Faience for architectural expression even in design of major importance: public lobbies of important buildings, hotels, apartments, office buildings, even libraries, banks and work of highest dignity. For this purpose the particular grade of tile employed comes under the general class of Faience Tile. It has been found commercially expedient to produce Faience in what is practically an unlimited range of colors. Some manufacturers having as many as 250 plain shades alone as well as thousands of designs in stock. Because of its hand-made quality, Faience readily lends itself to special design. In fact, almost anything which can be drawn or painted can be reproduced in tile with the advantage that the colors never fade, and with a cleaner such as Shine-All can be easily, in a few seconds, restored to their beauty as when

freshly out of the kiln. The surface of such tile is glass. Hence the permanency and brilliance. Likewise, the surface is quite as sanitary as if the color were white; yet without calling obtrusive attention to that quality.

For exterior color effect Faience Tile is rapidly becoming a favorite medium among architects. Faience colors are available in practically a complete range which are sunproof even under unprotected exposure. The glazes themselves used for external use, are burned on a frostproof body so that when set in waterproof mortar and backing they become integral with the building and continue their brilliancy so long as the building lasts. This is why architects have found Faience the final solution of a problem formerly difficult and incompletely met. But, however, resisting to sun, rain, frost and time, neither Faience Tile nor any other material is free from the slow deposit of soot and grime from the atmosphere. In cities, and especially in industrial centers, all buildings sooner or later become dirty; smoke consumption is not universally practiced, and even if it were, the rain brings down the dust of the air onto the buildings and evaporating leaves the suspended matter attached.

However, where Faience has been the decorative material employed, a bucket of water, a half-pint of Shine-All and the unskilled labor of a common porter displaces the expensive

MAINTENANCE OF MODERN FLOORS



Courtesy FLINT FAIENCE COMPANY

cleaning or sandblasting required by almost all other materials. Moreover, the use of the simple Shine-All treatment, precisely as used on the floors and walls inside, can be performed in a few minutes any time and thus keep exterior decorations of Faience Tile—however elaborate or extensive, however brilliant or colorful, however chased or soft—in a constant state of newness.

The sanitary cleaning of a House of Worship or other Ecclesiastical structures is as important as that of any building in public and semi-public field. Often, however, there is not a keen business judgment behind such institutions and too often archaic methods of cleaning persist, or are imperfectly performed, due to inattention, to unintelligent labor, as well as to the use of cleaning agents, obsolete, uncertain in their action, or even detrimental to the surfaces cleaned.

Returning to the middle ages for tradition, Faience Tile has resumed an important position in the interior decoration of Ecclesiastical work. For this purpose it stands out possibly above any other single material, for not only can its surfaces be molded but it has color and decorative possibilities of any elaboration whatever.

Particularly does Faience Tile lend itself to murals and symbolism, executed either realistically or conventionally. Faience is handled in fine detail if desired or in broad masses of color for distant effect. Its colors are softened to add to a spirit of reverence, or they are in all the brilliance imaginable. For the palette available in Faience permits perfect harmony in color and it is harmony which differentiates beauty from gaudiness. This in-

THE HILLYARD CHEMICAL COMPANY



Courtesy FLINT FAIENCE COMPANY

creasing use of colorful tile expands the cleaning work from the field of necessity and sanitation to a not inconsequential function of the very structure itself: Inspiration, Reverence, Beauty and Contemplation. And thus does a lowly product—Shine-All, only a cleaning compound—fulfills an exalted mission in its humble but very necessary work of keeping things clean and sanitary.

Cost, usually important in Ecclesiastical work, is reduced to the lowest possible point by Shine-All, for a little in a bucket of water makes efficient the efforts of any labor, novice or professional.

It is significant that the retail automobile industry is appraising the favorable selling reaction for the cars, of an ornate tile floor on which to display them. It is not different from the enhancing value of a diamond by a modern ornamental setting.

Such floors are not chosen primarily for their artistic merit, but for a specific reason which shows significantly on the black side of the ledger.

Shine-All has been a preferred contributor to this result, not only in keeping continuous the beauty of such floors but reducing the porter service and periodic cleaning to a fraction of that usually spent.

In one case the cost of such modern method of cleaning was 1-18th of that formerly employed. This saving represented wages alone. Of much greater value, however, was the fact that the floor at all times—late afternoon as well as morning, the end of the week as at the beginning—was always spick, fresh and clean.



HILLYARD'S Floor Products and their uses

SHINE-ALL—A neutral liquid chemical cleaner—contains light filler content. The chemical action in loosening dirt and grease reduces expensive labor costs. Will not harm or injure any surface not adversely affected by clear water. Used as a cleanser and preservative on any type of floors, including Ceramic Tile, Marble, Terrazzo, Slate, Linoleum, Cork Tile, Mastic, Magnesite and Composition, Wood, Painted and Varnished Surfaces.

ONEX-ITE—A heavy liquid cleaner—white in color—especially adapted for white or light colored marble, terrazzo and magnesite floors.

HILLYARD'S FORMULA No. 100—A heavy liquid cleanser for the removal of oil, grease, etc., on old wood floors.

KERAMIC TILE BLEACH—A liquid for use on white ceramic floor tile—removes discoloring stains caused from accumulation of soap, powder, oil and other encrusting materials—used for conditioning badly neglected tile, preparatory to Shine-All treatment.

SPECIAL SHINE-ALL FINISH—A quick drying clear colored, water, oil and stain resistant material. Produces a high lustre, long lasting finish easily cleaned and maintained. For use on Linoleum, Cork, Old Rubber Tile, Magnesite, Slate, Wood.

HILLYARD'S SEAL—The same base and qualities with a lighter body than Special Shine-All Finish. For use on Lacquered Linoleum, New Rubber Tile, Polished Slate, Rough Finish Marble, Terrazzo, Quarry and unglazed Faience Ceramic Tile.

PREMIER WOOD FILLER—Seals wood floors against water or oil absorption used in connection with Trackless Dressing on wood floors in institutions, schools, public buildings, stores, etc.

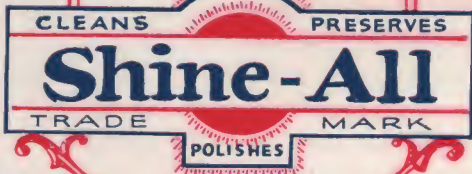
TRACKLESS FLOOR DRESSING—A volatile light colored non-tracking dressing for wood floors. Produces beautiful sheen and is guaranteed to prevent dust.

SPECIAL GYMNASIUM FINISH—A heavy varnish-like finish. Produces a high polish, at the same time the floors are non-skidding and slip-proof. For wood floors in gymnasiums. Contains no rosin or ester gum.

HILLYARD'S PASTE WAX—Highest quality possible to produce—is water proof and acid resistant, withstands heavy traffic. The high polish secured is lasting.

No. 33 and No. 66 **LIQUID WAX**—Made of the finest quality materials available—has larger spreading area.

ONEX-SEAL—An alkali, acid, efflorescence proof, and waterproof finish, for sealing and polishing. Made in 7 colors. Fine for dust proofing and beautifying cement floors, etc.



N IDEA—of proper service and production, which were costing owners and of money in depreciation, obsolescence a fifth of a century ago.

Years have come and gone, three factories have into the greatest organization of trained expert main with specific products that necessity and research disc Quality; that clients and customers have accepted as chemical analysis have worked hand in hand to perfect

The nation-wide recognition accorded representa their products in the maintenance field today was not I gram and high ideals of service instituted early in the li with painstaking care and fortitude. A barometer of than the previous year in service, in actual dollars and c and in research work accomplished.

A new era has arrived in the maintenance field w and user, greater technical knowledge and skill to mee lems of Maintenance presented by Modern Floors and C

To this end, of successfully meeting the problems fo the limit by our entire resources to improve and extenc

HILLYARD CHEMICAL CO.





cts, to eliminate the problems of maintenance and san-
managers of public and private buildings fabulous sums
id excess labor—was grasped by Mr. N. S. Hillyard, over

en built and outgrown, and this splendid idea has grown
enance men who are accomplishing (seeming) miracles
vered to fill a need; that purpose and integrity built on
he approved leaders in their field; and that research and

ives of the Hillyard and the Shine-All organizations and
rought about by chance, or accident, but by a fixed pro-
e of Hillyard, the institution, and faithfully followed
his success is that each and every year has been bigger
ents of business done, in recommendation and approval,

hich demands closer co-operation between manufacturer
t and overcome the ever-increasing complicated prob-
longested Traffic of today.

und on every hand, we pledge increased effort backed to
in every possible way the Hillyard Service to our clients.

Index of Hillyards Products for Floors

Listed According to Use

KERAMIC TILE

SHINE-ALL
(Liquid Cleaner)
HILLYARD SEAL
(Permanent Finish)
ONEX-SEAL
(Wax Like Finish)
KERAMIC TILE BLEACH
(For White Floor Tile)

MARBLE

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(Liquid Cleaner)
(White Marble Wax)
ONEX-ITE
(White Marble Cleaner)
ONEX-SEAL
(Permanent Finish)
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(Stain Resistant Finish)

TERRAZZO

SHINE-ALL
(Liquid Cleaner)
ONEX-ITE
(White Terrazzo Cleaner)
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LINOLEUM

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(Liquid Cleaner and
Preservative)
SPECIAL SHINE-ALL FINISH
(A Seal and Finish)
ONEX-SEAL
(Permanent Finish)

LIQUID WAX NO. 66
HILLYARD'S PASTE WAX

RUBBER

SHINE-ALL
(Liquid Cleaner)
LIQUID WAX NO. 33
ONEX-SEAL
(Permanent Finish)
HILLYARD SEAL
(Traffic Resistant Finish)

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ONEX-ITE
(For White Magnesite)
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(Liquid Cleaner)
HILLYARD NO. 100 CLEANER
(Special Liquid Oil Remover)
PREMIER WOOD FILLER
(Waterproof Seal and Filler)
TRACKLESS FLOOR DRESSING
SPECIAL GYMNASIUM FINISH
LIQUID AND PASTE WAX
(For Varnished Wood)

CEMENT

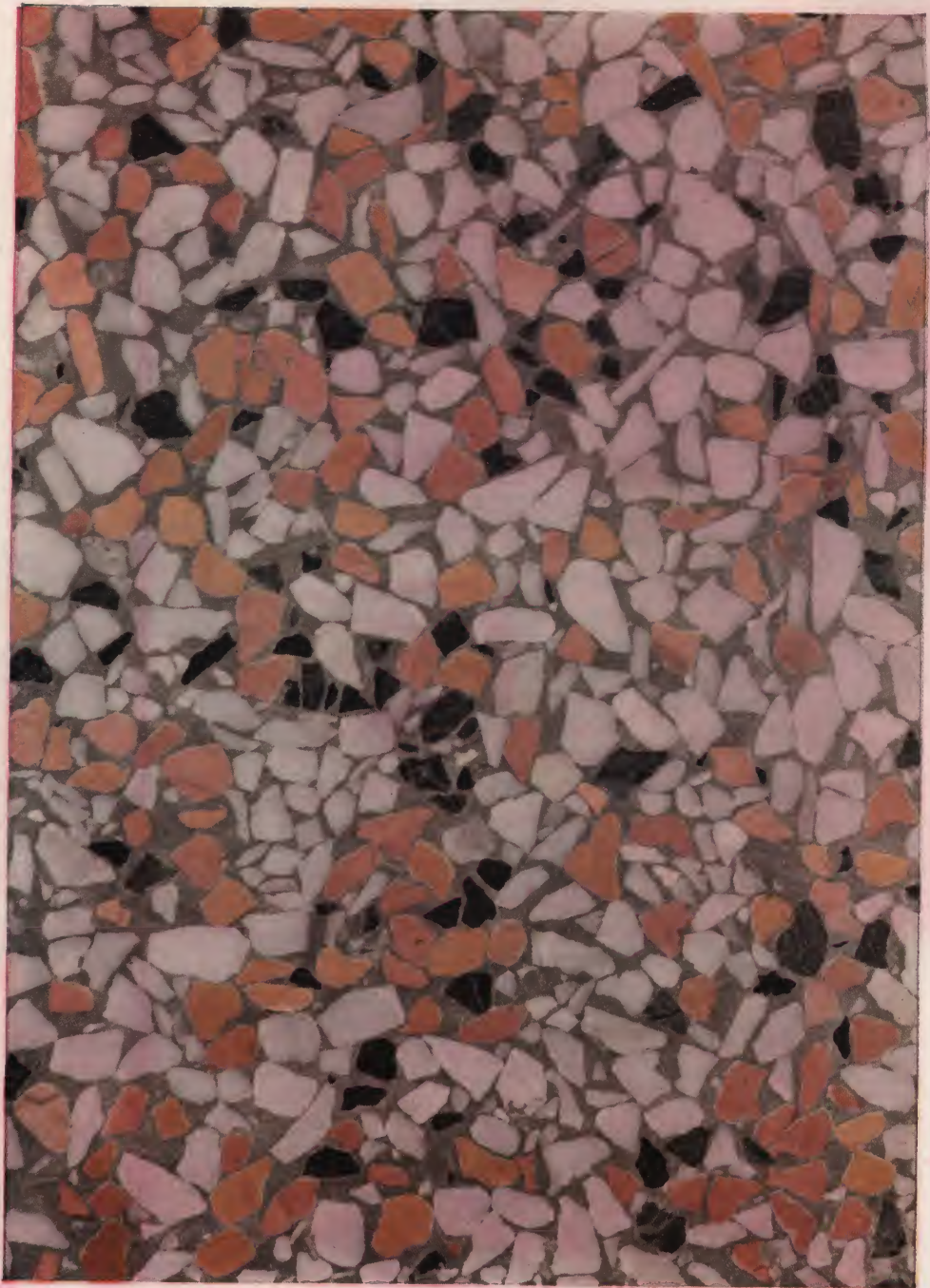
SHINE-ALL
(Liquid Cleaner)
ONEX-SEAL
(Prevents Stain and Dust)



ST. JOSEPH, MO., U.S.A.

MAINTENANCE OF MODERN FLOORS

*The One
Cleaner for
Every Use ~
Shine-All*



Courtesy NATIONAL TERRAZZO CONTRACTORS ASSN.

TERRAZZO

WITH the improved methods and modern machinery now in use, Terrazzo floors of most colorful and artistic nature are being installed in larger areas. The necessity of keeping the bright colors in Terrazzo clean and free from discoloring is recognized by all. On new terrazzo floors a mixture of one quart of SHINE-ALL to twelve quarts of warm water should be used. This solution not only cleanses floors of all dirt and foreign matter but helps seal the more or less porous cement bond which holds the marble chips.

THE HILLYARD CHEMICAL COMPANY



Painted by A. Magnanti

Courtesy BONDED FLOORS, INC.

RESILIENT FLOORS

The illustration shows a suggested treatment for Hotels, Apartments, Clubs and Lodges. Resilient flooring fills the requirements of this type of installation—appearance, comfort, quietness, durability and ease of maintenance.

MAINTENANCE OF MODERN FLOORS

A color scheme combining rough plaster walls, wrought iron furniture, and richly colored draperies calls for a somewhat vigorous floor treatment. The embossed linoleum floor illustrated provides just the right note of sturdy color. This combination is splendidly adapted for use in the new Spanish and Italian types of decoration so popular with small store, tea room and restaurant managers.

*The "Main"
Thing in
Maintenance
Is
Shine=All*



Courtesy ARMSTRONG CORK CO., LINOLEUM DIVISION

LINOLEUM

LINOLEUM is a practical floor for every room in the house, as well as for offices, stores, showrooms, libraries, auditoriums, and other types of business and public building installations. Properly installed as a permanent floor, linoleum is smooth, quiet, comfortable, sound deadening and easy-to-clean with SHINE-ALL.

It was sixty-eight years ago that Frederick Walton, a struggling young English inventor, conceived the idea of combining oxidized linseed oil with ground cork in the manufacture of the floor material we know as linoleum. It is said that he happened to notice the rubbery film which forms on top of an open can of paint. He tested this skin, found it to be elastic and tough, and experimented with combining this oxidized linseed oil with ground cork and pressed the mixture firmly on a staunchly-woven burlap back. When he perfected this new material, he called it linoleum, coining the word from "linum," flax, and "oleum," oil.

THE STORY OF LINOLEUM.

The making of linoleum today varies little from the descriptions in the original patents of 1863. Linseed oil, pressed from the seed of the blue-flowered flax of the Argentine, arrives at the linoleum plant in tank cars. After it is boiled, it is pumped to the top of high oxidizing sheds, where it is allowed to flow down over hanging sheets of scrim,

THE HILLYARD CHEMICAL COMPANY



Courtesy ARMSTRONG CORK Co., Linoleum Division

There is none of the stereotyped look of the typical railroad ticket office about this comfortable, inviting room—yet that's just what it is, the ticket office of the Baltimore and Ohio Railroad, located in the smart Fifth Avenue shopping district of New York City. The floor of Marble Inlaid Linoleum in black and cream blocks provides a background in harmony with the rich beauty of the leather-upholstered furnishings and luxurious fabric rug. A floor such as this is a definite selling asset, adding much to the appearance, as well as the efficiency and comfort of any room in which it is installed.

Save the
Surface==
Walk on the
Shine=All
Sheen

gradually congealing or oxidizing through contact with the air. The oxidized oil is then ground to pulp and fused with rosin and other gums, after which it must be aged before it is ready to be mixed with the cork flour.

In the meantime, the "scrap" which remains after bottle stoppers and other products are cut from the bark of the cork oak tree has been broken into bits and carried by air to the top floor of a towering cork mill. As it comes down from floor to floor, great millstones grind and regrind it to the fineness of wheat flour. Then the pulverized cork and ground linseed oil are combined with color pigments in a mix resembling sticky sawdust, and find their way at last to the calendars—ponderous machines equipped with huge heated steel rollers weighing many tons apiece. As the linoleum "mix" comes from the floor above, it drops between these rollers, completely covering the burlap, which is fed into them from below, and the finished linoleum goes into high stoves or drying rooms to complete the seasoning process.

MAKING INLAID LINOLEUM.

There are two separate processes in making what is known as Inlaid Linoleum, in which the colors are not simply overlaid on the surface, but go all the way through to the burlap back. For the one type, known as Straight Line Inlaid, the individual blocks of the pattern are cut out with sharp "cookie" cutters" from "blankets" rolled out like pie-

MAINTENANCE OF MODERN FLOORS

Really an architectural feature of the handsome suite of offices of the Scientific American Publishing Company in New York City is the splendid floor of Marble Inlaid Linoleum in twelve-inch black and cream blocks. The linoleum was cemented over felt on a concrete base.

Not only does the floor provide a foundation of unusual decorative interest, but, because of its exceptional resiliency, it presents a comfortable walking surface and is also quiet and sound-deadening.

*The One
Cleaner for
Every
Purpose==
Shine=All*



Courtesy ARMSTRONG CORK CO., Linoleum Division

dough, then placed in position on the burlap back and fused together by the great weight of hydraulic presses. To make Moulded Inlaid, a granular mix of each color to be used in the pattern is brushed through metal stencils onto the burlap back. As the burlap leaves the last stencil, it is completely covered with the pattern worked out in the granular linoleum "mix" and goes into heavy heated presses where the various colors are permanently keyed in place.

MAKING PRINTED LINOLEUM.

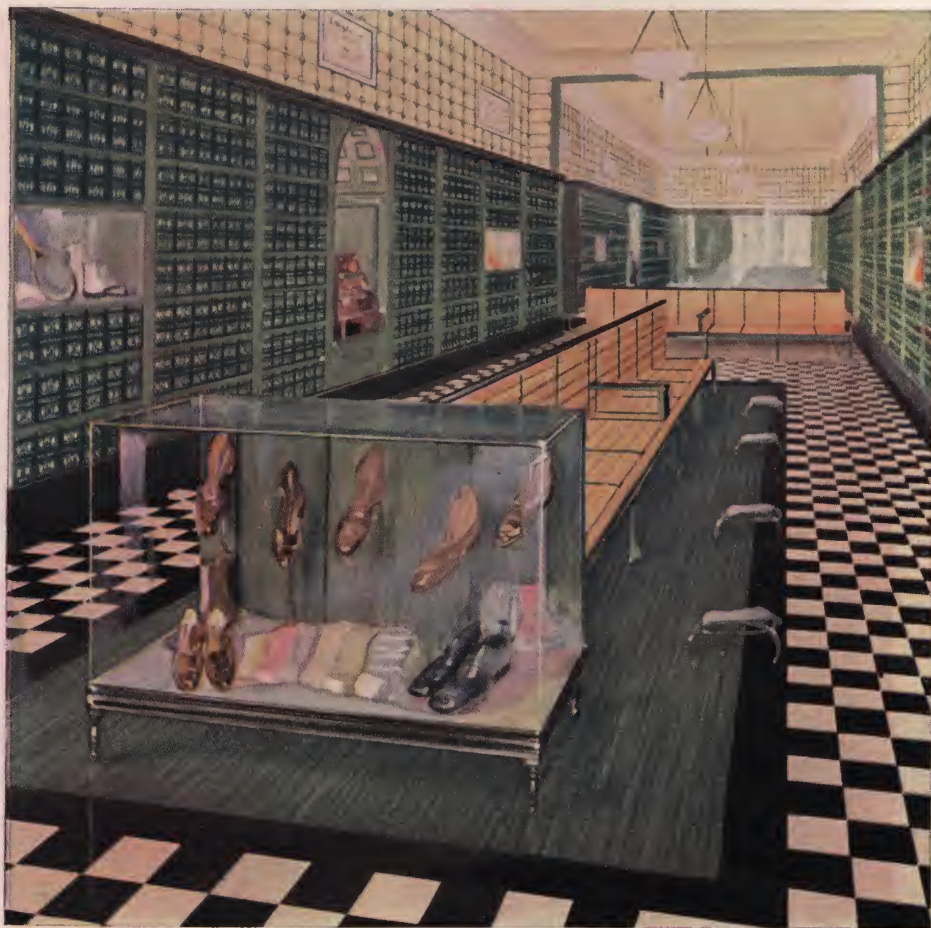
Printed Linoleum, as its name implies, is plain linoleum on which a pattern has been overlaid in heavy oil paints.

These, then, are the basic kinds of linoleum. They include such varieties as the Hand-made Marble Inlaid of superior finish and density, Embossed Tile Inlaid, in which the interliners are slightly recessed, giving the floor an interesting texture, a new type of design embossed at three levels, and various other special grades. The wealth of selection available to the linoleum buyer is indicated by the fact that there are 465 different designs in one manufacturer's line this year.

ADVANTAGES OF LINOLEUM.

There are many reasons for selecting a permanent linoleum floor. It is reasonable in

THE HILLYARD CHEMICAL COMPANY



Many prominent chains of stores and display rooms throughout the country have selected distinctive linoleum floors as a standard part of their equipment. This especially designed floor of Linoleum was created by Richard H. Smythe, the architect responsible for the Thom McAn shoe stores, located in several score of eastern cities. Mr. Fitz-Randolph, President of the Melville Shoe Corporation, of which the Thom McAn shops are a part, recommends linoleum as a highly satisfactory floor material, desirable alike for its practical charm and its decorative advantages.



Courtesy ARMSTRONG CORK Co., Linoleum Division

first cost, it never requires expensive refinishing, and properly installed it is down to stay—smooth, quiet, comfortable and easy-to-clean with SHINE-ALL for many years to come. That is why linoleum floors are used today and not only in the kitchen and bath but in sun porches, living-rooms, dining-rooms, and bedrooms of better-class homes and in fine stores, showrooms, and business offices.

Linoleum is only as good as it is maintained and laid. To insure its lasting service and beauty a warm layer of deadening felt should be first pasted to the floor then the linoleum pasted to the felt, sealing all seams and edges with a water proof cement. Always protect linoleum by cleaning and maintaining with SHINE-ALL.

LINOTILE FLOORS.

Another type of resilient floor is Linotile, sturdy compressed tiles manufactured in many colors, sizes, and shapes that can be combined in distinctive designs planned to fit the room.

CORK TILE.

For a room where a dignified floor of unusual quiet and comfort is desired, Cork Tile is ideal. Made of pure cork without any other ingredients or binders, it is a resilient, warm, quiet floor of high quality.

Select a design to harmonize with the color of woodwork, walls, fixtures, and draperies, have it properly laid, see that it is given reasonable care, and you will find any one of these resilient floors a thoroughly satisfactory investment.

MAINTENANCE OF MODERN FLOORS

*For
Residence
Cleaning
Shine=All
Is Ideal*

Shine-All is supreme as a cleaner in the home—especially for removing finger prints from white enamel or other light woodwork.



Courtesy THE GEO. W. BLABON CO.

THE FIRST STEP in planning the furnishing of a room, as many interior decorators, know, is to begin with the floor—the largest single area in the room. The size, spirit and location of the particular room in which it will be used determine the selection of the proper floor or foundation color. One of the many advantages of linoleum is the fact that it is made in such a wide variety of colors and designs, affording the decorator an interesting range of floor selection.

Having decided upon the floor, the next step—choosing a wall color—becomes a simple matter. As the walls are to serve as backgrounds for hangings and furniture, the wall colors should usually be of lighter tones, harmonizing with those chosen for the floor. After the wall color has been decided, the right color to use for woodwork also suggests itself. It may either contrast with the wall color for emphasis or be in lighter or darker tones of the same color.

From this point on in furnishing a home or business establishment the imagination can have full sway. Your draperies may be subdued or brightly colorful, depending upon the purpose and location of the room, as long as they contain hints of the major colors already selected for floors and walls.

THE HILLYARD CHEMICAL COMPANY



From painting by A. Magnanti

Courtesy BONDED FLOORS, INC.

THE FLOORING materials used for office space of all types are usually subject to heavy traffic. Coupled with the consequent need for extreme durability is a demand for materials of good appearance which are quiet and comfortable under foot and which are easily maintained in a thoroughly clean condition. Shine-All not only provides a perfect neutral cleaner, but contains a food filler, which builds a protective finish and prolongs the life of resilient floors.

MAINTENANCE OF MODERN FLOORS

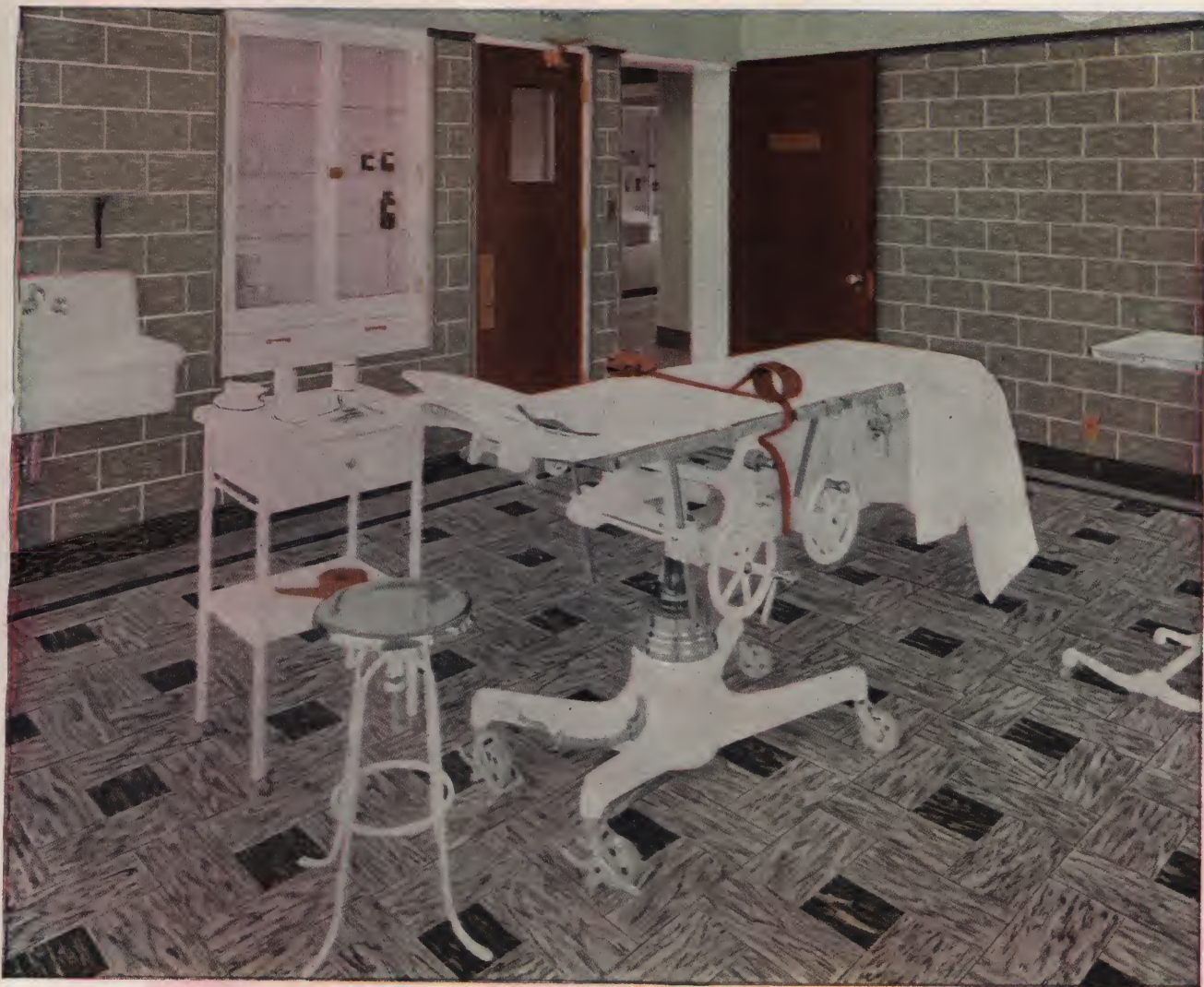


From painting by A. Magnanti

Courtesy BONDED FLOORS, INC.

THE selection of flooring materials for stores of all types is a matter requiring great care, because of the extreme wear to which they are subjected. It is estimated that the average foot exerts a pressure of 40 pounds at every step. To prevent unsightly traffic lanes, where countless thousands of footsteps are directed by habit or necessity each day, a thin, protective, non-slippery "sheen" should be maintained on the floor surface. SHINE-ALL not only supplies this protection, but also greatly improves the appearance, comfort, and ease of maintenance.

THE HILLYARD CHEMICAL COMPANY



Courtesy WRIGHT RUBBER PRODUCTS COMPANY

A Most Modern Hospital Operating Room, Equipped With Rubber Tile

RUBBER TILE

HOSPITAL ROOMS, equipped with Rubber Tile Flooring, walls and wainscoting finished in this color scheme, are free from the glare so often found in hospital rooms where obsolete white enamel flooring and walls are used.

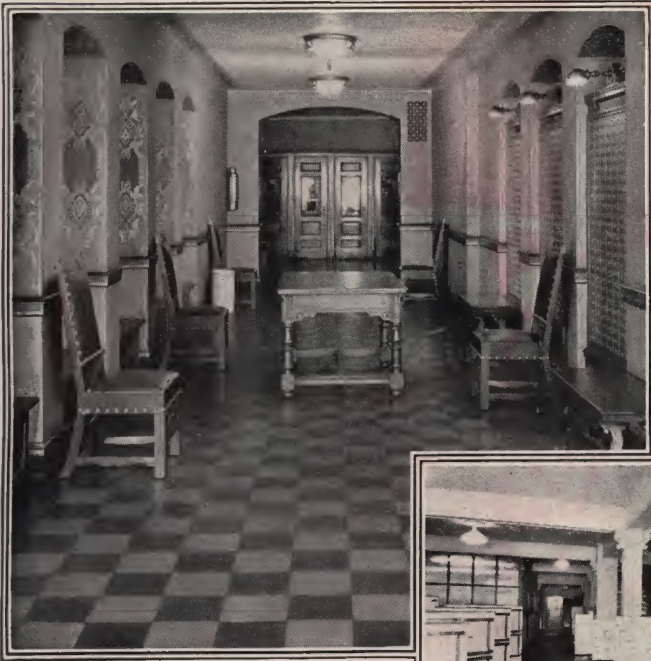
Thousands of dollars have been spent in research to obtain a restful color scheme, without sacrificing any light refraction. Rubber Tile eliminates all ordinary operating room noises and gives the restful comfort so much needed by surgeons and nurses. It is the last word in hospital room equipment.

Each tile is fastened to the sub-surface with special water-proof cement and can easily be laid by any good mechanic. The resiliency of these floors makes them particularly restful and a pleasure to walk or work on. They are equally efficient in many offices, stores and factories.

These beautiful floorings can be had in a wide range of colors, either in plain, mottled or grained effects to harmonize with surroundings.

MAINTENANCE OF MODERN FLOORS

MAINTENANCE AND



*Installation in Council Chambers.
Courtesy TILE-TEX Co.*



*Installation in Factory
Courtesy TILE-TEX Co.*

*Installation in Display Room
Courtesy TILE-TEX Co.*

Tile-Text is an ideal resilient tile floor for heavy traffic areas. It is composed entirely of inert, inorganic materials compounded under heat and tremendous pressure, giving Tile-Text floors outstanding qualities of permanency, beauty and economy. Asphalt and asbestos are the ingredients of Tile-Text. The fact that Tile-Text and Tile-Text asphalt cement are water and acid proof makes it possible for Tile-Text to be laid directly on concrete floors which are on or below grade without the necessity of water-proofing such areas for dampness.



CARE OF TILE-TEX

On new floors it is often necessary to overcome difficult cleaning conditions caused by the accumulation of dirt, grease, etc., tracked onto the Tile-Tex by other trades. To insure quick and satisfactory results, a heavy solution, one part Shine-All to three or four parts water, should be used. Apply this mixture to floor in liberal quantities with a clean mop. As soon as the Shine-All solution has loosened all dirt and foreign substance, dry the floor immediately.



*Installation in Drug Store
Courtesy TILE-TEX Co.*



*Installation in Stock Exchange
Courtesy TILE-TEX Co.*



*Installation in Furniture Store
Courtesy TILE-TEX Co.*

Once the Tile-Tex floors are put in proper condition a solution of one cup of Shine-All to a three or four-gallon pail of water.

PROPER DRYING. Pick up dirty water from floor with mop which *must be kept clean* by agitating the mop in the Shine-All solution each time the mop is wrung out. Permit floors to become thoroughly dry and then buff with a Hillyard Automatic Dustless Floor Brush to produce an attractive sheen and polish.



Interior Kezar Stadium, Golden Gate Park, San Francisco, California. Maintained Exclusively by Hillyard's Method of Wood Floor Maintenance

WOOD FLOORS

THE treatment of wood floors has of recent years centered largely around the school. Hence our efforts have been more or less concentrated toward the accomplishment of securing a finish for both open and close grained woods that can be easily kept clean, sanitary and free of dust without the necessity of constant scrubbing.

It is readily understood and appreciated by those familiar with School Maintenance Problems that the first and foremost problem is the lack of man power on the janitorial staff, hence the appeal of the Hillyard Method of Wood Floor Maintenance which *DOES NOT* require additional janitorial help.

The outstanding features of this method are clean, attractive, *dustless* floors, a saving in labor, discarding the use of all sweeping compounds and eliminating the entire expense of buying bristle or hair floor brushes which in large schools are a big item of expense.

Application of this method is simple. The first requisite is to have the wood floor thoroughly cleaned—SHINE-ALL will insure best results for this operation as it cleans the wood without fuzzing the grain. Second, when floors are clean and free of all dirt, grease, stains, etc., and perfectly dry Hillyard's Premier Wood Filler is then applied with a

THE HILLYARD CHEMICAL COMPANY

burlap mop. This Wood Filler is rubbed into the grain of the wood, insuring a floor perfectly sealed against moisture and traffic dust. When the Filler is thoroughly dry apply Hillyard's Trackless Floor Dressing with Hillyard's Automatic Dustless Floor Brush. All equipment needed to apply and maintain this Wood Floor Method is supplied by Hillyards. Request our pamphlet which deals exclusively on this subject.

GYMNASIUM FINISH

Our Special Gym Finish produced to meet a particular need is today recognized by the outstanding athletic directors, coaches and athletes as the one finish which will withstand the constant pound of charging feet without losing its lustre or becoming *slippery*.

The finest and most convincing recommendation as to the efficiency of and satisfactory results rendered by Hillyard's Gym Finish in the past decade are the imposing number of large schools, universities and private clubs located in every part of the United States who have used this Finish in their gymnasiums with uniform satisfaction.

MODERN FLOORS

Modern floors embody a great variety of beautiful colors and materials. They represent an integral part of the investment and attractiveness of a building. Therefore it is important that SHINE-ALL, the standardized product, be used to insure the greatest service and beauty.

GENERAL DIRECTIONS FOR USE OF SHINE-ALL REDUCING CLEANING COSTS

SHINE-ALL—an efficient, trademarked chemical cleanser that maintains the original beauty of floors—is recognized and universally recommended by the leading Flooring Manufacturers and contractors because it reduces labor costs of cleaning and is *free* from harmful agents such as alkali, acid, ammonia, soda, lye or caustics found in cheap soaps and powders—SHINE-ALL does not contain any abrasives.

INITIAL TREATMENT

On new installations use a mixture of one quart of SHINE-ALL to twelve quarts of water. This solution will remove all dirt, grease, etc., and will also help seal the more or less porous type of floors. Wherever possible, on new work, have a Hillyard maintenance engineer call.

HOW TO USE

SHINE-ALL is chemical in action. Therefore always apply SHINE-ALL solution with mop in liberal quantities upon the areas to be cleaned, permitting the mixture to remain on floors for a few minutes so that it can loosen all foreign matter such as dirt and grease, etc. Clean only limited area at a time to prevent cleaning solution from drying on floors before you can remove the dirty water.

Subsequent cleaning may be accomplished with the use of one pint of SHINE-ALL to four gallons of water.

PROPER DRYING. This requires a thoroughly clean mop which should be agitated up and down in the SHINE-ALL solution before wringing it out. This loosens all dirt that may be carried in mop. Repeat this performance each time it is necessary to wring out mop.



SHINE-ALL SALES COMPANY

Distributors

HILLYARD CHEMICAL COMPANY

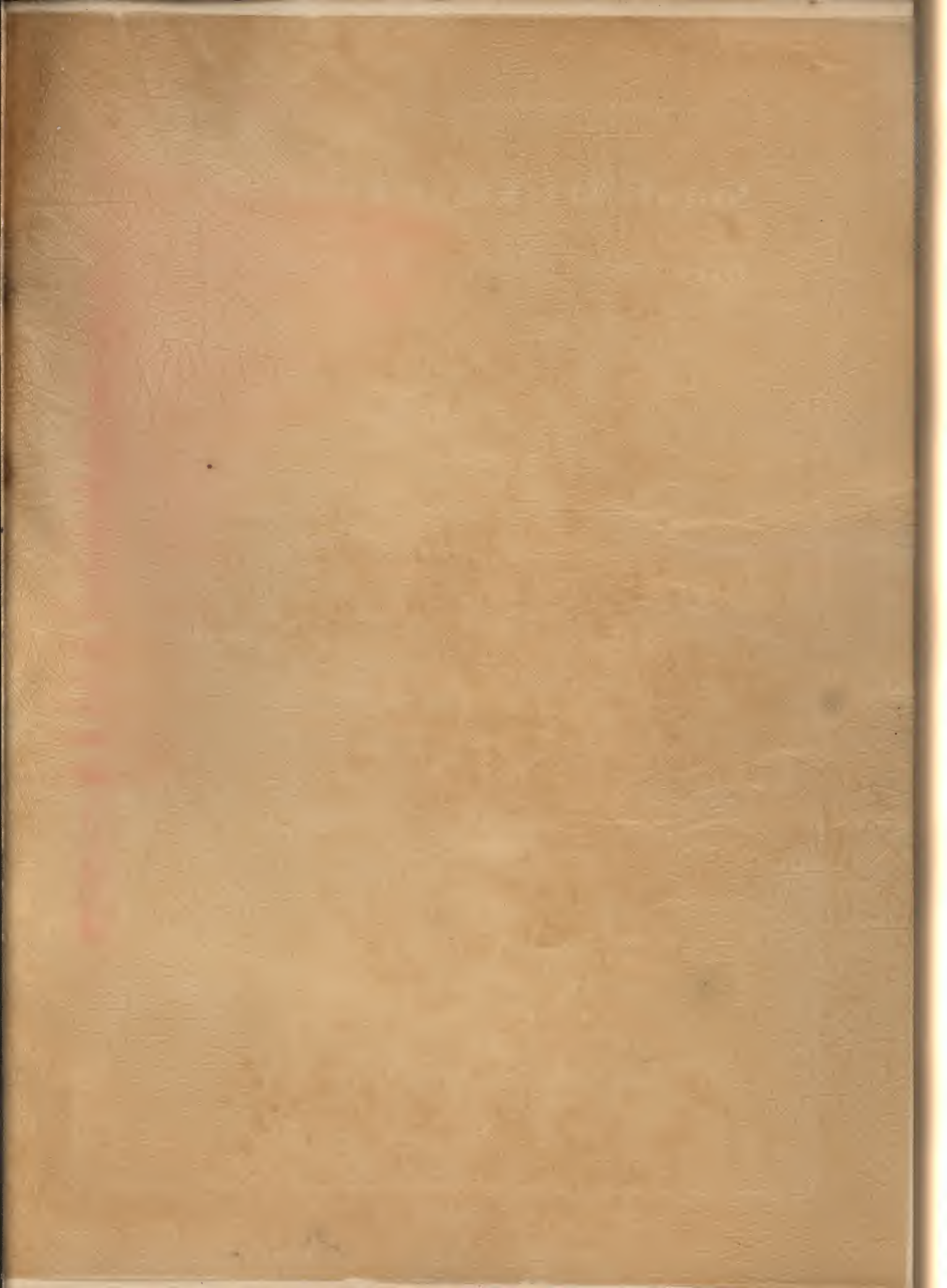
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HOUSTON, TEXAS	SEATTLE, WASHINGTON
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JACKSONVILLE, FLORIDA	WASHINGTON, D. C.
BUFFALO, NEW YORK	RENO, NEVADA



*The Nation-Wide Organization of Hillyard
Floor Maintenance Engineers and Con-
sultants Are at Your Service*



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